UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,293	09/16/2003	Michel Doyon	10442-30US	9796

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EXAMINER
VERDI, KIMBLEANN C

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/662,293	DOYON ET AL.
	Examiner	Art Unit
	KimbleAnn Verdi	2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _08 August 2007_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under _Ex parte Quayle_, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-14_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-14_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _July 8, 2005_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

This office action is in response to the Amendment filed on August 8, 2007. Claims 1-14

are pending in the current application. All previously outstanding objections and

rejections to the Applicant's disclosure and claims not contained in this Action have

been respectfully withdrawn by the Examiner hereto.

Response to Arguments

1.   Applicant's arguments filed on August 8, 2007 have been fully considered but

they are not persuasive. In response to the Non-Final Office Action dated February 8,

2007, applicant argues in regards to claim 1:

> (1) **Contrary to the Examiner's statement that all elements of claim 1 are**
>
> **disclosed in Dingwall, at least the following is not: "providing from said at**
>
> **least one application a sequence of asynchronous commands to be**
>
> **executed in real time ",** (page 4, lines 13-16).

In response to argument (1), examiner respectfully disagrees and notes

that Dingwall teaches providing from said at least one application a sequence of

asynchronous commands (software interrupts generated by WINDOWS™ Applications

wishing to communicate with Application-specific Tasks, col. 4, lines 14-16, made up of

events) to be executed in real time (Virtual Device Driver (VxD), 28, Fig. 2, supports

real-time multi-tasking, col. 3, lines 46-47).

Claim Objections

2.   Applicant is advised that should claim 5 be found allowable, claims 10 and 14 will

be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two

claims in an application are duplicates or else are so close in content that they both

cover the same thing, despite a slight difference in wording, it is proper after allowing

one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

3.   Applicant is advised that should claim 6 be found allowable, claim 13 will be

objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two

claims in an application are duplicates or else are so close in content that they both

cover the same thing, despite a slight difference in wording, it is proper after allowing

one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent 5,903,752 to Dingwall et al. (hereinafter Dingwall).

6.   As to claim 1, Dingwall teaches a computer system, a method for providing

improved real time command execution in a non real time operating system, comprising:

executing at least one application at a user mode level of said computer system (WINDOWS™ Applications, 22, Fig. 2);

providing from said at least one application a sequence of asynchronous commands (software interrupts generated by WINDOWS™Applications wishing to communicate with Application-specific Tasks, col. 4, lines 14-16, made up of events) to be executed in real time (Virtual Device Driver (VxD), 28, Fig. 2, supports real-time multi-tasking, col. 3, lines 46-47);

storing said sequence of asynchronous commands in a command queue (real time tasks, 34, Fig. 2 and RT Event 36, Fig. 2) to be accessible from a privileged mode level of said computing system (Virtual Device Driver (VxD), 28, Fig. 2, run at most privileged level col. 3, lines 36-37); and

implementing one at a time each of said stored asynchronous commands (task executes until complete in interrupt mode, col. 5, lines 7-9).

7.   As to claim 2, Dingwall teaches the method as claimed in claim 1, wherein a plurality of sequences of asynchronous commands is provided (software interrupts generated by WINDOWS™Applications wishing to communicate with Application-specific Tasks, col. 4, lines 14-16, made up of events), each sequence being related to a corresponding application thread (task), further wherein said storing of a sequence of asynchronous commands is performed in a corresponding queue (real time tasks, 34, Fig. 2 and RT Event 36, Fig. 2) from the execution of said corresponding application thread queue (RT Task execution mode, Fig. 9).

8.   As to claim 3, Dingwall teaches the method as claimed in claim 1, wherein a

synchronous (real-time) command is added to said sequence of asynchronous

commands, said application sleeping (application task is asleep (dormant/locked) until

interrupted, 818, Fig. 8) until said synchronous command is executed (RT Scheduler 30,

Fig. 2, releases scheduling lock which allows real-time tasks to pre-empt the current

(asynchronous) process, col. 3, lines 59-61).

9.   As to claim 4, Dingwall teaches the method as claimed in claim 2, wherein a

synchronous command is added to said sequence of asynchronous commands, said

application thread sleeping (application task is asleep (dormant/locked) until interrupted,

818, Fig. 8) until said synchronous command is executed (RT Scheduler 30, Fig. 2,

releases scheduling lock which allows real-time tasks to pre-empt the current

(asynchronous) process, col. 3, lines 59-61).

10.   As to claim 5, Dingwall teaches the method as claimed in claim 1, wherein said

non real time operating system is MICROSOFT WINDOWS™ (environment of

WINDOWS™, col. 3, lines 33-34) and said step of storing is performed through

execution of a driver routine from a DLL file (Virtual Device Driver (VxD) is dynamic link

library (DLL), col. 3, lines 33-36).

11.   As to claim 6, Dingwall teaches the method as claimed in claim 5, wherein said

step of providing involves said commands being pushed one at a time into said

sequence through system call (interrupt occurs which causes the processor to switch to

VxD interrupt mode and execute RT interrupt handler 32, Fig. 2, col. 4, lines 51-23, RT

interrupt handler 32, Fig. 2, wake up associated real-time task).

12.　　As to claim 7, Dingwall teaches the method as claimed in claim 1, wherein one of said stored commands is a branch command to control the order of execution of said stored commands (RT scheduler 30, Fig. 2, schedules task preemptively by priority and allows interrupt handlers 32, Fig. 2, to make real-time tasks ready for execution without preemption, col. 3, lines 54-62).

13.　　As to claim 8, Dingwall teaches the method as claimed in claim 1, wherein said step of implementing is done at a different privileged mode level system (Virtual Device Driver (VxD), 28, Fig. 2, run at most privileged level col. 3, lines 36-37).

14.　　As to claim 9, Dingwall teaches the method as claimed in claim 8, wherein said different privileged level is that of the Interrupt Service Routine (Virtual Device Driver (VxD), 28, Fig. 2, which is interrupt driven, runs at most privileged level col. 3, lines 36-38), whereby the delay between the execution of successive commands is minimized (improves real-time response col. 2, line 49-50).

15.　　As to claim 10, Dingwall teaches the method as claimed in claim 9, wherein said non real-time operating system is MICROSOFT WINDOWS™ (environment of WINDOWS™, col. 3, lines 33-34).

16.　　As to claim 11, Dingwall teaches the method as claimed in claim 1, wherein said sequence of commands process the same data set (task needs to process data in buffer stored by audio/video device, col. 4, lines 59-60).

17.　　As to claim 12, Dingwall teaches the method as claimed in claim 11, wherein said same data set is a video camera image being captured and processed in real-time (task

needs to process data in buffer stored by audio/video device, col. 4, lines 59-60)(example task used to perform capture or playback of audio/video, col. 4, lines 5-6).

18.   As to claim 13, Dingwall teaches the method as claimed in claim 1, wherein said step of providing involves said commands being pushed one at a time into said sequence through a system call (interrupt occurs which causes the processor to switch to VxD interrupt mode and execute RT interrupt handler 32, Fig. 2, col. 4, lines 51-23, RT interrupt handler 32, Fig. 2, wake up associated real-time task).

19.   As to claim 14, Dingwall teaches the method as claimed in claim 1, wherein said step of storing is performed through execution of a driver routine (Virtual Device Driver) from a system file (Virtual Device Driver (VxD) is dynamic link library (DLL), col. 3, lines 33-36).

Conclusion

1.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KimbleAnn Verdi whose telephone number is (571) 270-1654. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KV
October 22, 2007

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER